File Replication Activities at BNL

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People

- John Leita
  - Comp Eng Graduate Student, SUNY SB
- Tom Robertazzi
  - Comp Eng Professor, SUNY SB
- Rich Ibbotson
  - Physicist & System Administrator, BNL
- Rich Baker
  - Physicist & Project Coordinator, BNL

Goals

- Get Acquainted with Grid & Globus
- Develop Experience with Objectivity
- Contribute to ATLAS/GriPhyN Tests Fall ‘00
- “Learning” Project for New Graduate Student
- Get SUNY SB Involved with ATLAS at BNL
- Explore Requirements for Grid Services
- Create Object Oriented API for DB Replication

Objectivity Data Replication

- Essential Problem for ATLAS
  - Solution Needed Before Choosing DB
- Very Complex Issue
  - Synchronization, Scaling, Error Handling, …
- Essence Distilled to a Manageable “Summer Project”

Design

- class PublicDB: public ooDB { …
- Add New Interfaces for Replication Services
- Keep Implementation as Simple as Possible
  - Databases Only
  - Use “dummy” Replica Catalog
  - Invoke “oocopydb” on Remote Federation
  - Use Globus ftp to Transfer File
  - Attach Copied DB to Local Federation

Status

- Script Implementation Complete
- Tested on Small Databases
- C++ Class Implementation Preliminary
- Planned Tests (with ANL) in October

Future Development

- Plug In Real Replica Catalog
- Expand to Containers? Objects?
- Create Mechanism(s) for DB Update
- Performance
- Scalability